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EXAMINER

BALAOING, ARIEL A

ART UNIT	PAPER NUMBER
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2683

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/702,208	Applicant(s) LEE, KYUNG SOOK	
	Examiner Ariel Balaoing	Art Unit 2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-4, 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 1 recites the limitation "the target slot" in line 6 of the claim. There is insufficient antecedent basis for this limitation in the claim.
4. Claims 4 and 20 recites the limitation "the short message" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claims 2 and 3 are rejected as being dependent on an indefinite claim.

Claim Rejections - 35 USC § 101

Claims 51-60 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 51 is drawn to a "communication channel" *per se* as recited in the preamble and as such is non-statutory subject matter. See MPEP § 2106.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3, 13-16, 19, 21-24, 27, 29-34, 37, 39, 40-43, 46, 48, 49-53, 56, 58-62 are rejected under 35 U.S.C. 102(e) as being anticipated by WANG et al (US 2003/0032462 A1).

Regarding claim 1, WANG discloses a method of communicating message data in a mobile communication system (abstract) comprising: transmitting a first information for informing arrival of the message data (paragraph 23; mobile is notified of message arrival); transmitting a second information indicating a position of a target time slot in a communication packet in which the message data is included (paragraph 23, 33-35, 42; broadcast indicator bits indicate slot to monitor); and including the message data in the target slot (paragraph 33-35; mobile station is configured to receive message data).

Regarding claim 2, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the message data is carried over a paging channel (paragraph 24), and wherein a searching period for the paging channel is equivalent to a searching period for a general page message [broadcast page] (paragraph 23, 33; mobile unit is configured to monitor the paging channel for a broadcast page).

Regarding claim 3, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the first information and the second information are included in a general page message for transmission (paragraph 23).

Regarding claim 13, WANG discloses a system for communicating information (abstract) comprising: a mobile communication network for transmitting a first information in a first communication cycle having a first plurality of time slots (F-QPCH; paragraph 33, 42-44), and a second information in a second communication cycle having a second plurality of time slots (F-PCH; paragraph 34), wherein the first information indicates position of the message information in a target slot in said second plurality of time slots (paragraph 28, 33, 34, 42; broadcast indicator used to inform mobile to monitor); and a mobile communication terminal for searching a time slot in the first communication cycle for the first information, and retrieving the second information from the target slot based on the first information (paragraph 28, 33-36, 42-44).

Regarding claim 14, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the first information is position information (paragraph 28, 33-36, 42-44).

Regarding claim 15, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the second information is message information (paragraph 28, 33-36, 42-44).

Regarding claim 16, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the first information indicates the presence of the second information in the second communication cycle (paragraph 33-35; presence of message on the F-PCH cycle).

Regarding claim 19, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the first and

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second information are transmitted over a paging channel of the mobile communication network (paragraph 23, 33-35).

Regarding claim 21, WANG discloses a method for transmitting information from a mobile communication network (abstract), the method comprising: transmitting a first information in a first communication cycle having a first plurality of time slots (F-QPCH; paragraph 33, 42-44); and transmitting a second information in a second communication cycle having a second plurality of time slots (paragraph 33-34), wherein the first information indicates position of the second information in a target slot in said second plurality of time slots, such that the second information can be retrieved from the target slot in said second communication cycle based on the first information (paragraph 28, 33-36, 42-44).

Regarding claim 31, WANG discloses a method for communicating information from a mobile communication network (abstract), the method comprising: receiving a first information in a first communication cycle having a first plurality of time slots (F-QPCH; paragraph 33, 42-44); and receiving a second information in a second communication cycle having a second plurality of time slots (paragraph 33-34), wherein the first information indicates position of the second information in a target slot in said second plurality of time slots, such that the second information can be retrieved from the target slot in said second communication cycle based on the first information (paragraph 28, 33-36, 42-44).

Regarding claim 41, WANG discloses an apparatus for receiving information in a mobile communication network (abstract) comprising: a search mechanism for

searching a slot in a first communication cycle for first information indicating the position of a second information in a target slot in a second communication cycle (paragraph 33-35, 42-44); and a retrieving mechanism for retrieving the second information from the target slot based on the first information (paragraph 33-35, 42-44).

Regarding claim 51, WANG discloses a communication channel in a mobile communication network for transmitting information from a base station to a mobile terminal, the communication channel (abstract; paragraph 36) comprising: a first communication cycle comprising a first plurality of time slots, wherein a first time slot comprises a first information (paragraph 33-35, 42-44); and a second communication cycle comprising a second plurality of time slots, wherein a target time slot comprise a second information (paragraph 33-35, 42-44), wherein the first information provides position of the target time slot in the second communication cycle (paragraph 33-35, 42-44).

Regarding claims 22 and 32, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the first information is position information (paragraph 28, 33-36, 42-44).

Regarding claims 23, 33, 42, and 52, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the second information is message information (paragraph 28, 33-36, 42-44).

Regarding claims 24, 34, 43, and 53, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the first information indicates the presence of the second information in the

second communication cycle (paragraph 33-35; presence of message on the F-PCH cycle).

Regarding claims 27, 37, 46, and 56, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the first and second information are transmitted over a paging channel of the mobile communication network (paragraph 23, 33-35).

Regarding claims 29, 39, 48, and 58, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses in the first and second information are transmitted over a general paging channel (paragraph 23).

Regarding claims 30, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the first and second information are transmitted from a mobile communications network (abstract).

Regarding claim 40, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the first and second information are received by a mobile communication terminal (abstract).

Regarding claim 49, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the apparatus is a mobile communication terminal (paragraph 33-35).

Regarding claim 50, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the mobile communication terminal is in communication with a mobile base station (paragraph 36).

Regarding claim 59, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein a mobile communication terminal searches the first communication cycle for the first information to determine the position of the target time slot in the second communication cycle (paragraph 28, 33-36, 42-44).

Regarding claim 60, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein a mobile communication terminal searches the first communication cycle for the first information, and retrieves the second information from the target time slot based on the first information (paragraph 28, 33-36, 42-44).

Regarding claim 61, WANG discloses an apparatus for transmitting information in a mobile communication network (abstract) comprising: means for transmitting a first information in a first communication cycle having a first plurality of time slots (paragraph 28, 33-36, 42-44); and means for transmitting a second information in a second communication cycle having a second plurality of time slots (paragraph 28, 33-36, 42-44), wherein the first information indicates position of the second information in a target slot in said second plurality of time slots, such that the second information can be retrieved from the target slot in said second communication cycle based on the first information (paragraph 28, 33-36, 42-44).

Regarding claim 62, WANG discloses an apparatus for transmitting information in a mobile communication network (abstract) comprising: a transmitter wherein the transmitter transmits a first information in a first communication cycle having a first plurality of time slots and for transmitting a second information in a second communication cycle having a second plurality of time slots (paragraph 28, 33-36, 42-44), wherein the first information indicates position of the second information in a target slot in said second plurality of time slots, such that the second information can be retrieved from the target slot in said second communication cycle based on the first information (paragraph 28, 33-36, 42-44).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 4-12, 17, 18, 20, 25, 26, 28, 35, 36, 38, 44, 45, 47, 54, 55, 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over WANG et al (US 2003/0032462 A1) in view of CHANDER et al (US 5,909,651).

Regarding claim 4, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the message is included in a data burst message for transmission (paragraph 23). Although WANG discloses that the messages can be of various forms between the mobile station and the base station (paragraph 36), WANG does not expressly disclose wherein the messages are short messages. CHANDER discloses wherein the messages are short messages (abstract; col. 4, lines 13-37). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify WANG to include short messages, as taught by CHANDER, as both inventions relate to the handling of messages within the paging channel. This is beneficial in that short messages are a common form of messaging between a mobile device and base station.

Regarding claim 5, WANG discloses a method of receiving a message in a mobile communication system (abstract) comprising: searching for first and second information (paragraph 33-35), the first information for informing arrival of the message (paragraph 23; mobile is notified of message arrival) and the second information for informing a position of a slot on which the arrived message is carried during a search period of a paging channel (paragraph 23, 33-35; broadcast indicator bits indicate slot to monitor); determining a slot for receiving the message based on the first and second information (Figure 3; paragraph 23, 33-35); and receiving the message carried on the

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slot (paragraph 34-35; mobile station is configured to receive message data). Although WANG discloses that the messages can be can be of various forms between the mobile station and the base station (paragraph 36), WANG does not expressly disclose wherein the messages are short messages. CHANDER discloses wherein the messages are short messages (abstract; col. 4, lines 13-37). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify WANG to include short messages, as taught by CHANDER, as both inventions relate to the handling of messages within the paging channel. This is beneficial in that short

Regarding claim 6, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein a search period for the paging channel is the same as a search period for a general page message (paragraph 23, 33; mobile unit is configured to monitor the paging channel for a broadcast page).

Regarding claim 7, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the first information and the second information are included in a general page message (paragraph 23).

Regarding claim 8, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the message is included in a data burst message for transmission (paragraph 23). Although WANG discloses that the messages can be can be of various forms between the mobile station

and the base station (paragraph 36), WANG does not expressly disclose wherein the messages are short messages. CHANDER discloses wherein the messages are short messages (abstract; col. 4, lines 13-37). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify WANG to include short messages, as taught by CHANDER, as both inventions relate to the handling of messages within the paging channel. This is beneficial in that short messages are a common form of messaging between a mobile device and base station.

Regarding claim 9, WANG discloses a method of communicating a broadcasting message in a mobile communication system (abstract) comprising: transmitting first information for informing arrival of the broadcasting message (paragraph 23); transmitting second information for informing a position of a slot on which the arrived broadcasting message is carried using a paging channel and in accordance with a searching period for the paging channel (paragraph 23, 33-35, 42-44); carrying the arrived broadcasting message on a slot corresponding to the second information and transmitting the broadcasting message (paragraph 23, 33-35, 42-44); searching for the first information for determining arrival of the broadcasting message (paragraph 23, 33); searching for the second information for informing a position of a slot on which the arrived broadcasting message is carried in accordance with a searching period for a paging channel (paragraph 33); determining a slot for receiving the broadcasting message based on the searched first and second information (paragraph 33-34); and receiving the broadcasting message carried on the determined slot (paragraph 34-35; mobile station is configured to receive message data). Although WANG discloses that

the messages can be can be of various forms between the mobile station and the base station (paragraph 36), WANG does not expressly disclose wherein the messages are short messages. CHANDER discloses wherein the messages are short messages (abstract; col. 4, lines 13-37). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify WANG to include short messages, as taught by CHANDER, as both inventions relate to the handling of messages within the paging channel. This is beneficial in that short messages are a common form of messaging between a mobile device and base station.

Regarding claim 10, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein a searching period for the paging channel is approximately equal to a searching period for a general page message (paragraph 23, 33; mobile unit is configured to monitor the paging channel for a broadcast page).

Regarding claim 11, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the first information and the second information are included in the general page message to be transmitted (paragraph 23).

Regarding claim 12, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the message is included in a data burst message for transmission (paragraph 23). Although WANG discloses that the messages can be can be of various forms between the mobile station and the base station (paragraph 36), WANG does not expressly disclose wherein the

messages are short messages. CHANDER discloses wherein the messages are short messages (abstract; col. 4, lines 13-37). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify WANG to include short messages, as taught by CHANDER, as both inventions relate to the handling of messages within the paging channel. This is beneficial in that short messages are a common form of messaging between a mobile device and base station.

Regarding claim 17, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, WANG does not expressly disclose wherein the first the second information is a text message. CHANDER discloses wherein the first the second information is a text message (col. 4, lines 13-37).

Regarding claim 18, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, WANG does not expressly disclose wherein the second information comprise a mobile short message. CHANDER discloses wherein the second information comprise a mobile short message (col. 4, lines 13-37).

Regarding claim 20, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the message is included in a data burst message for transmission (paragraph 23). Although WANG discloses that the messages can be can be of various forms between the mobile station and the base station (paragraph 36), WANG does not expressly disclose wherein the messages are short messages. CHANDER discloses wherein the messages are short messages (abstract; col. 4, lines 13-37). Therefore it would have been obvious to a

person of ordinary skill in the art at the time the invention was made to modify WANG to include short messages, as taught by CHANDER, as both inventions relate to the handling of messages within the paging channel. This is beneficial in that short messages are a common form of messaging between a mobile device and base station.

Regarding claims 25, 35, 44, and 54, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, WANG does not expressly disclose wherein the first the second information is a text message. CHANDER discloses wherein the first the second information is a text message (col. 4, lines 13-37).

Regarding claims 26, 36, 45, and 55, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, WANG does not expressly disclose wherein the second information comprise a mobile short message. CHANDER discloses wherein the second information comprise a mobile short message (col. 4, lines 13-37).

Regarding claims 28, 38, 47, and 57, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. WANG further discloses wherein the message is included in a data burst message for transmission (paragraph 23). Although WANG discloses that the messages can be can be of various forms between the mobile station and the base station (paragraph 36), WANG does not expressly disclose wherein the messages are short messages. CHANDER discloses wherein the messages are short messages (abstract; col. 4, lines 13-37). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention

was made to modify WANG to include short messages, as taught by CHANDER, as both inventions relate to the handling of messages within the paging channel. This is beneficial in that short messages are a common form of messaging between a mobile device and base station.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

LEE et al (US 2002/0051442 A1) – Transmitting/Receiving Broadcast message in mobile communication system

JOU (US 6,505,052 B1) – System for transmitting and receiving short message service messages

WILLEY (US 6,307,846 B1) – Wireless communication system for scheduling messages to reduce the quick paging channel peak power level

BUTLER et al (US 6,832,094 B2) – Dual event slotted paging

CHAMBERS et al (US 6,763,240 B1) – High margin notification method and apparatus

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ariel Balaoing whose telephone number is (571) 272-7317. The examiner can normally be reached on Monday-Friday from 8:00 AM to 4:30 AM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ariel Balaoing
Art Unit 2683

AB


GEORGE ENG
SUPERVISORY PATENT EXAMINER